

Compact and efficient ultraviolet laser for astrobiology, Phase I

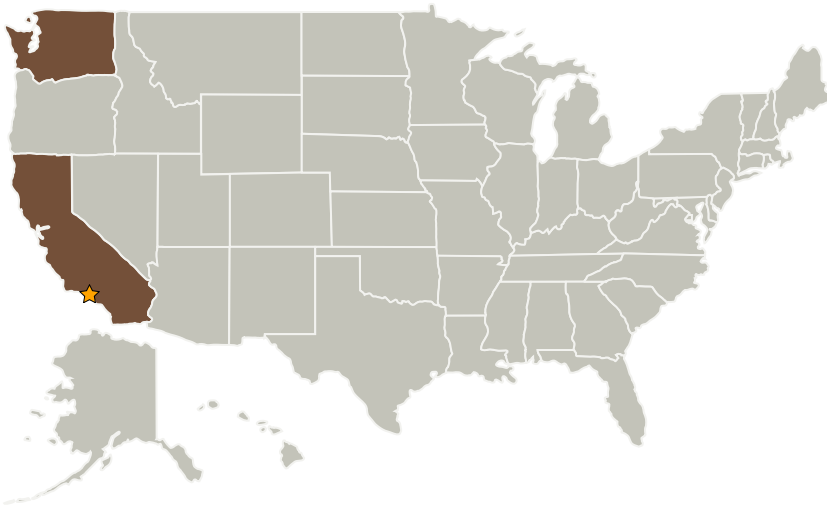
Completed Technology Project (2004 - 2004)



Project Introduction

The purpose of this program is to develop a compact and efficient ultraviolet laser for use in space-based uv-Raman instruments. The basis for this system will be a diode-pumped neodymium-yttria (Nd:Y2O3) ceramic laser which is frequency-quadrupled to generate uv light at 237nm. The unique combination of a low-cost and robust ceramic laser with efficient 4th harmonic generation will provide an ideal ultraviolet source for NASA missions to planets and moons in the Solar System.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★ Jet Propulsion Laboratory (JPL)	Lead Organization	NASA Center	Pasadena, California
Aculight Corporation	Supporting Organization	Industry	Bothell, Washington

Primary U.S. Work Locations

California	Washington
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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Jet Propulsion Laboratory (JPL)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

David Gerstenberger

Technology Areas

Primary:

- TX08 Sensors and Instruments
 - └ TX08.1 Remote Sensing Instruments/Sensors
 - └ TX08.1.5 Lasers